

In the Claims

1. (previously presented) An intelligent data concentrator, comprising:
 - a first interface for communicatively coupling, at an internal space in a wall, said intelligent data concentrator to said network, said network having a head end, wherein said head end is a central control site operable to remotely access said intelligent data concentrator over said network;
 - a second interface comprising a plurality of communication ports for communicatively coupling, at an external surface of the wall, said intelligent data concentrator to a plurality of client devices at said plurality of communication ports such that said client devices are communicatively coupled to said network;
 - means for processing and interpreting data coupled to said first interface; and
 - fault detection means coupled to said means for processing and interpreting data, said fault detection means for performing fault detection in said network.
2. (previously presented) An intelligent data concentrator as recited in Claim 1 wherein said head end is operable to remotely access said means for processing and interpreting data.
3. (previously presented) An intelligent data concentrator as recited in Claim 1 wherein said fault detection means is configured to isolate faults in both an uplink from said head end of said network and a downlink from said head end of said network.

4. (previously presented) An intelligent data concentrator as recited in Claim 1 wherein said fault detection means is selected from the group consisting essentially of:

a link beat signal fault detection, a ping signal fault detection, and a loop-back mode for fault detection.

5. (previously presented) An intelligent data concentrator as recited in Claim 1 wherein said intelligent data concentrator is configured such that said intelligent data concentrator is provided power over said network.

6. (previously presented) An intelligent data concentrator as recited in Claim 5 wherein said head end is configured to activate and deactivate said intelligent data concentrator over said network.

7. (previously presented) An intelligent data concentrator as recited in Claim 5 wherein said intelligent data concentrator is configured to activate and deactivate said client devices.

8. (previously presented) An intelligent data concentrator as recited in Claim 1 wherein said intelligent data concentrator employs time domain reflectometry measurement techniques such that said fault detection means is operable to determine a distance from said intelligent data concentrator to said fault.

9. (previously presented) An intelligent data concentrator as recited in Claim 1, wherein said intelligent data concentrator is configured to receive data packets from said head end.

10. (previously presented) An intelligent data concentrator as recited in Claim 9 wherein said data packets are for operating diagnostic tests at said intelligent data concentrator for validating network connections.

11. (previously presented) An intelligent data concentrator for coupling an electronic device to a network comprising:

- a first interface for communicatively coupling, at an internal space in a wall, said intelligent data concentrator to said network, said network having a head end, wherein said head end is a central control site operable to remotely access said standalone intelligent device over said network;

- a second interface, at an external surface of the wall, comprising a plurality of communication ports for communicatively coupling said intelligent data concentrator to a plurality of client devices at said plurality of communication ports such that said client devices are communicatively coupled to said network;

- a robust processor coupled to said first interface; and

- a fault detector coupled to said robust processor.

12. (previously presented) An intelligent data concentrator as recited in Claim 11 wherein said head end is operable to remotely access said robust processor.

13. (previously presented) An intelligent data concentrator as recited in Claim 11 wherein said fault detector is configured to isolate faults in both an uplink from said head end of said network and a downlink from said head end of said network.

14. (previously presented) An intelligent data concentrator as recited in Claim 11 wherein said fault detector is selected from the group consisting essentially of: a link beat signal fault detector, a ping signal fault detector, and a loop-back mode for fault detection.

15. (previously presented) An intelligent data concentrator as recited in Claim 11 wherein said intelligent data concentrator is configured such that said intelligent data concentrator is provided power over said network.

16. (previously presented) An intelligent data concentrator as recited in Claim 15 wherein said head end is configured to activate and deactivate said intelligent data concentrator over said network.

17. (previously presented) An intelligent data concentrator as recited in Claim 15 wherein said intelligent data concentrator is configured to activate and deactivate said client devices.

18. (previously presented) An intelligent data concentrator as recited in Claim 11 wherein said intelligent data concentrator employs time domain reflectometry measurement techniques such that said fault detection means is operable to determine a distance from said intelligent data concentrator to said fault.

19. (previously presented) An intelligent data concentrator as recited in Claim 11 wherein said intelligent data concentrator is configured to receive data packets from said head end.

20. (previously presented) An intelligent data concentrator as recited in Claim 19 wherein said data packets are for operating diagnostic tests at said intelligent data concentrator for validating network connections.

21. (previously presented) A method for fault detection in a network, said method comprising the steps of:

a) providing an intelligent data concentrator coupled to a network, said intelligent data concentrator comprising a first interface for communicatively coupling, at an internal space in a wall, said intelligent data concentrator to said network, a second interface comprising a plurality of communication ports for communicatively coupling, at an external surface of the wall, said intelligent data concentrator to a plurality of client devices at said plurality of communication ports, a robust processor coupled to said first interface, and a fault detector coupled to said robust processor, said network having a head end, wherein said head end is a central control site operable to remotely access said intelligent data concentrator over said network;

b) monitoring said network for a fault by said intelligent data concentrator and said head end, such that said intelligent data concentrator and said head end operate in conjunction.

22. (previously presented) A method as recited in Claim 21 wherein said head end is operable to remotely access said robust processor.

23. (Original) A method as recited in Claim 21 wherein said fault detector is configured to isolate faults in both an uplink from said head end of said network and a downlink from said head end of said network.

24. (Original) A method as recited in Claim 21 wherein said fault detector is selected from the group consisting essentially of: a link beat signal fault detector, a ping signal fault detector, and a loop-back mode for fault detection.

25. (previously presented) A method as recited in Claim 21 wherein said intelligent data concentrator is configured such that said intelligent data concentrator is provided power over said network.

26. (previously presented) A method as recited in Claim 25 wherein said head end is configured to activate and deactivate said intelligent data concentrator over said network.

27. (previously presented) A method as recited in Claim 25 wherein said intelligent data concentrator is configured to activate and deactivate said client devices.

28. (previously presented) A method as recited in Claim 21 wherein said intelligent data concentrator employs time domain reflectometry measurement techniques such that said fault detection means is operable to determine a distance from said intelligent data concentrator to said fault.

29. (previously presented) A method as recited in Claim 21 wherein said intelligent data concentrator is configured to receive data packets from said head end.

30. (previously presented) A method as recited in Claim 29 wherein said data packets are for operating diagnostic tests at said intelligent data concentrator for validating network connections.